

REVISION OF SOME SPECIES OF FAMILY SCHIZOMIDAE
(ARACHNIDA: SCHIZOMIDA) ON THE BASIS OF TYPES DEPOSITED
BY F.H. GRAVELY (1911-1925) IN THE NATIONAL COLLECTION, ZSI, KOLKATA¹

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The redescription of six species, namely *Schizomus sijuensis*, *S. lunatus*, *S. perplexus*, *S. greeni*, *S. vittatus* and *S. cavernicola* of schizomid arachnids described by F.H. Gravelly (1911-1925), have been provided, with illustrations to facilitate their identification. *S. sijuensis*, *S. perplexus* and *S. cavernicola* have been redesignated as new combinations. The specimens studied were deposited in the National Collection of the Zoological Survey of India, Kolkata by F.H. Gravelly, and are the lectotypes. These species are redesignated on the basis of revisionary studies by Harvey, Reddell and Cokendolpher.

Key words: Redescription, *Schizomus*, *sijuensis*, *lunatus*, *perplexus*, *greeni*, *vittatus*, *cavernicola*, *tikaderi*, *chaibassicus*, *chalakudicus*, India, Sri Lanka, Myanmar

INTRODUCTION

Schizomids are minute arachnids rarely encountered in the field. They are nocturnal, most secretive and prefer selective habitats. Southeast Asian schizomid fauna was initially explored by Pickard-Cambridge (1872), Thorell (1883-1889) and Pocock (1900), who mainly concentrated on small countries like Burma (now Myanmar), Ceylon (now Sri Lanka), Malaysia and Sumatra.

Pickard-Cambridge raised the Family Tarteridae to a Suborder Tarterides and described *Nyctalops crassicaudatus* P. Cambridge [= *Schizomus crassicaudatus* (P. Cambridge)]; locality Royal Botanical Gardens, Peradeniya, Kandy District, Sri Lanka. Subsequently, Thorell described *Trithyreus grassi* (Teinzo, Burma) (Reddell and Cokendolpher 1985) and *Trithyreus cambridgei* (Prone, Burma). Under the same Suborder, Pocock (1900) in his monumental work FAUNA OF BRITISH INDIA: ARACHNIDA described a new species *Trithyreus suboculatus* (Ceylon). He also included three species described by Pickard-Cambridge (1872) and Thorell (1883-1889). Gravelly (1911-25) contributed first on Burmese and Ceylonese Schizomids by describing *Schizomus cavernicola* (Khayon Caves, Burma), *S. (Tr.) paradeniyensis*, *S. (Tr.) vittatus*, and *S. (Tr.) greeni* (Pundalu-oya, Marurata and Ambalagoda, Ceylon respectively), and three species from India as *Schizomus (Tr.) sijuensis* (Siju caves, Garo Hills, Meghalaya), *S. (Tr.) kharagpurensis*, and *S. (Tr.) lunatus* (Kharagpur and Botanical Garden, Calcutta, West Bengal). Further, in 1915, he described *S. (Tr.) perplexus* and *S. (Tr.) buxtoni* (Polonuruwa, Ceylon), he also reported *S. (Tr.) modestus* Hanson (Tiga and Terneh caves, Malaya). Fernando (1957) described *Schizomus formicoides* (Colombo, Ceylon).

Bastawade (1985) and Bastawade and Pal (1992) have reported the order Schizomida for the first time from Indian states Maharashtra and Arunachal Pradesh respectively. Sissom (1980), Cokendolpher and Reddell (1986), Cokendolpher (1988), and Cokendolpher and Sites (1988) have studied eastern Asian schizomids and have described some new species. Cokendolpher *et al.* (1988) have described *Schizomus tikaderi*, the first species from a peninsular Indian state Maharashtra. Further, *Schizomus crassicaudatus* (Pickard-Cambridge) has been redescribed and diagnosed by Reddell and Cokendolpher (1991) on the basis of lectotypes and paralectotypes from University of Oxford, U.K. and Zoologisk Museum, Copenhagen. Reddell and Cokendolpher (1995) have compiled literary and revisionary studies of about 180 schizomid species from all over the world. The genus "*Schizomus*" has been split into many new genera mainly on the basis of studies of spermathecae and other subletting characters, the known species *Schizomus tikaderi* Cokendolpher *et al.* (1988) has been transferred to *Neozomus tikaderi* comb. nov. Reddell and Cokendolpher (1995), in their monograph, have provided complete synonymies, published and unpublished records, habitat information, and bibliography for every taxon of the Order Schizomida. Bastawade (2001) redescribed *Schizomus buxtoni* (Gravelly), unaware of the revision by Reddell and Cokendolpher (1995). The taxonomic status of *S. buxtoni* (Gravelly) changed to *Apozomus buxtoni* (Gravelly) comb. nov.

Gravelly deposited most of his type specimens in the collection of the erstwhile Indian Museum, Calcutta (= Kolkata), now the National Collection in the custody of the Zoological Survey of India, Kolkata. The type material representing Indian, Ceylonese and Burmese species of Schizomida were studied and are being reported here. Two

new species *Schizomus chaibassicus* (Chaibass Pass, Chhota Nagpur, Madhya Pradesh, India) and *S. chalakudicus* (Chalakudi, Trichur (= Cochin), Kerala, India) have been identified and described by Bastawade (2002). Accordingly, this communication deals with the description of 6 species under the respective proposed genera by Reddell and Cokendolpher (1995) "*Schizomus*" *greeni* Gravely and "*S.* *vittatus* Gravely could not be studied due to lack of information.

1. *Trithyreus sijuensis* (Gravely) comb. nov. (Figs 1-13)

1925. "*Schizomus*" (*Trithyreus*) *sijuensis* Gravely, *Rec. Indian Mus.* 26: 61-62.

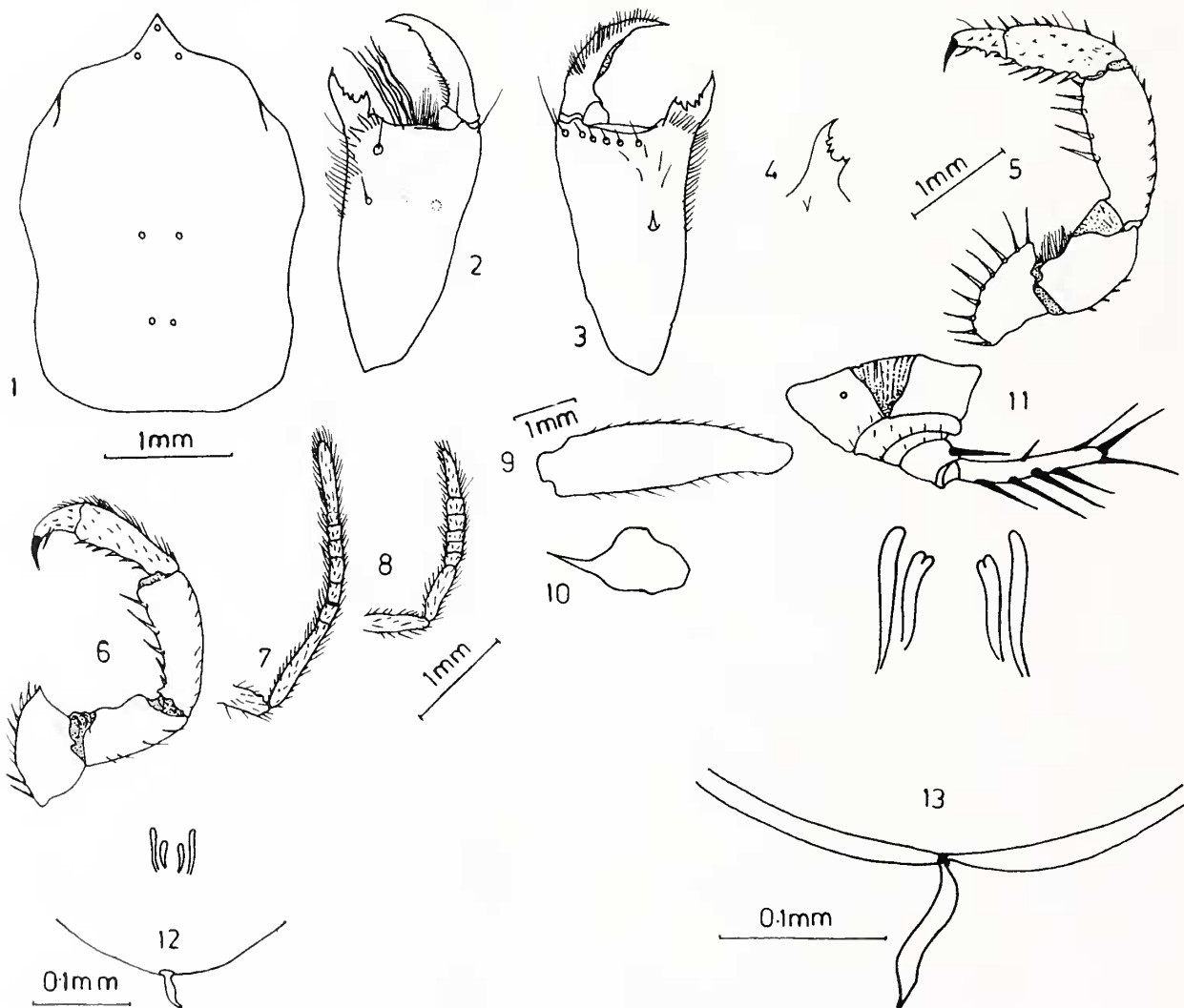
1995. *Schizomus sijuensis* Reddell and Cokendolpher, *Texas Mem. Mus. Speleol. Monogr. No. 4*: 4,11,20 and 54.

2002. *Schizomus sijuensis*: Bastawade, *J. Bombay Nat. Hist. Soc.* 99(1): 90-95.

General: Female with yellowish-brown body, distal portions of pedipalps and chelicerae more brownish, distal portions of legs paler. Body surface smooth. Pedipalp stout, strong and expanded on trochanter. Flagellum single segmented.

Measurements (in mm): Total length 7.80; Cephalothorax 3.03, abdomen 4.77 (Tables 1, 2).

Cephalothorax: Propeltidium almost twice as long as wide, anterior margin narrowing into pointed anterior process,



Figs 1-13: *Trithyreus sijuensis* (Gravely) comb. nov., 1. Carapace (Propeltidium), dorsal view, 2. Chelicera, outer view, 3. Chelicera, inner view, 4. Immoveable (fixed) finger of chelicera, lateral view, 5. Pedipalp (♀), lateral (mesal) view, 6. Pedipalp (♂), lateral (mesal) view, 7. Tarso-basitarsus (♀), lateral view, 8. Tarso-basitarsus (♂), lateral view, 9. Femur IV (♂), lateral view, 10. Coxa II, lateral view, 11. Flagellum (♀) with abdominal segments XI-XII, lateral view, 12. Spermathecae, ventral view, 13. Spermathecae, ventral view, enlarged

smooth, bearing one median seta and one pair of setae at the base of the process. Three pairs of dorsal setae present; Eye spots absent (Fig. 1). Mesopeltidium almost touching each other medially, Metapeltidium undivided but with a median suture. Anterior sternum with 9 setae and 2 sternapophysial setae, posterior sternum not sclerotized and setation not clear.

Abdomen: All tergites and sternites smooth, setal composition not clear as all setae have dropped off from specimen. Tergites III-VIII each with a pair of round impressions for dorso-ventral muscles. Flagellum 1 mm long and 7-8 times longer than wide, of single annulus, setose and 2*d*, 2*dl*, 4*v* and 2*vl* setae (Fig. 10). Genital sternum wider than long, spermathecae double, elongated tubular lobes and tubular walls not very thick on each side (Figs 11-12).

Appendages: *Chelicera:* Basal segment with posterior dorsal depression, fixed finger with only three teeth between proximal and distal large teeth (Fig. 4), movable finger with smooth, obsolete serrula with only a minute distal tooth (Figs 2, 3). Types of setae present 1-4, 2-7, 3- (unclear, except one), 4-2, 5-8 and 6-1. *Pedipalp:* Short, strong and stout, expanded on trochanter and pointed distally, laterally compressed, only three pilose weak and long setae on ventrolatero-distal margin, many pilose setae of various sizes present on ventrolateral margin; femur shorter and stouter, bearing series of small, short, stout setae on interior side, whereas outer portion bears only three to four longer, spinulose setae, otherwise smooth; patella longer than femur, smooth, with a few scattered spinulose setae on outer surface, inner surface with double row of strong setae, a row of 4 spinulose setae on dorsal and three spinulose setae on ventral side; tibia almost as long as patella, smooth, with pilose setae, inner margin with upper and lower rows of spinulose setae of various lengths except 2-3 stouter spines; tarso-basitarsus with mesal spine smaller and closer than lateral spine, ventral and mesoventral surface with many long, pilose setae; claw almost equal to tarso-basitarsus length (Figs 5, 7). *Legs:* all legs damaged, coxae II bearing a long, stout, anteriorly pointed spine (Fig. 13); Femur IV almost 3.84 times longer than wide, setation not clear (Fig. 9).

Lectotype: ♂ Total length 7.80 mm, Cephalothorax 3.30, abdomen 4.50; flagellum damaged, anterior process of propeltidium with a median seta and a pair of basal setae; anterior sternum with 4 visible setae, with 2 sternapophysial setae, posterior sternum with 4 setae, sternite VI with 13-14 setae on anterior portion, 2 setae on posterior portion, sternites VII-IX each with a row of posterior marginal setae; flagellum broken and missing; chelicera with 6-7 more setae at the base of movable finger; tarso-basitarsus proportion as 20:7:9:8:5:9:31. Femur IV 3.43 times longer than wide. Leg formula 1423.

Type data: **Holotype:** 1 ♀, 1 ♂ (lost), 2 ♀ ♀ immature, 1 ♀

Table 1: Measurements (in mm) for ♀ *Trithyreus sijuensis* Gravely

| | Pedipalp | Legs I | II | III | IV |
|------------|----------|--------|------|------|------|
| Trochanter | 0.96 | 0.69 | 0.30 | 0.39 | 0.42 |
| Femur | 1.02 | 2.67 | 1.44 | 1.41 | 2.19 |
| Patella | 1.17 | 3.54 | 0.99 | 1.02 | 1.05 |
| Tibia | 0.84 | 2.73 | 1.26 | - | 1.44 |
| Basitarsus | 0.81 | 1.41 | 0.54 | - | - |
| Tarsus | | | 0.87 | - | 1.05 |
| Total | 4.80 | 11.04 | 5.40 | - | - |

Table 2: Measurements (in mm) for ♂ *Trithyreus sijuensis* Gravely

| | Pedipalp | Legs I | II | III | IV |
|------------|----------|--------|------|------|-------|
| Trochanter | 1.38 | 1.63 | 0.60 | 0.78 | 0.95 |
| Femur | 1.50 | 2.63 | 2.40 | 1.80 | 2.95 |
| Patella | 1.68 | 4.50 | 1.15 | 0.88 | 1.53 |
| Tibia | 1.50 | 2.68 | 1.65 | 1.20 | 2.50 |
| Basitarsus | 0.63 | 2.23 | 1.05 | 1.00 | 1.05 |
| Tarsus | | | 1.15 | 1.33 | 1.55 |
| Total | 6.69 | 13.67 | 8.00 | 6.99 | 10.53 |

(broken), from Garo Hills, Meghalaya (previously Assam), 3,500-3,610 ft elevation at the entrance of Siju caves, Coll. F.H. Gravely, dt. not recorded. **Lectotype:** 1 ♂, (flagellum broken and lost) from Garo Hills, Meghalaya (previously Assam), 2,500 ft elevation, Coll. F.H. Gravely, Feb. 1922, deposited in National Zoological Collection, ZSI, Kolkata, Regn. No. 5349/H2.

Remarks: After studying the descriptions, character tables and illustrations given by Reddell and Cokendolpher (1995), the author proposes to transfer the species *Schizomus sijuensis* Gravely to *Trithyreus sijuensis* (Gravely) comb. nov.

2. "*Schizomus lunatus*" Gravely (Figs 14-24)

1911a. *Schizomus (Trithyreus) lunatus* Gravely, *Rec. Indian Mus.* 6: 33-38.

1985. *Schizomus lunatus* Bastawade, *J. Bombay Nat. Hist. Soc.* 82(3): 690.

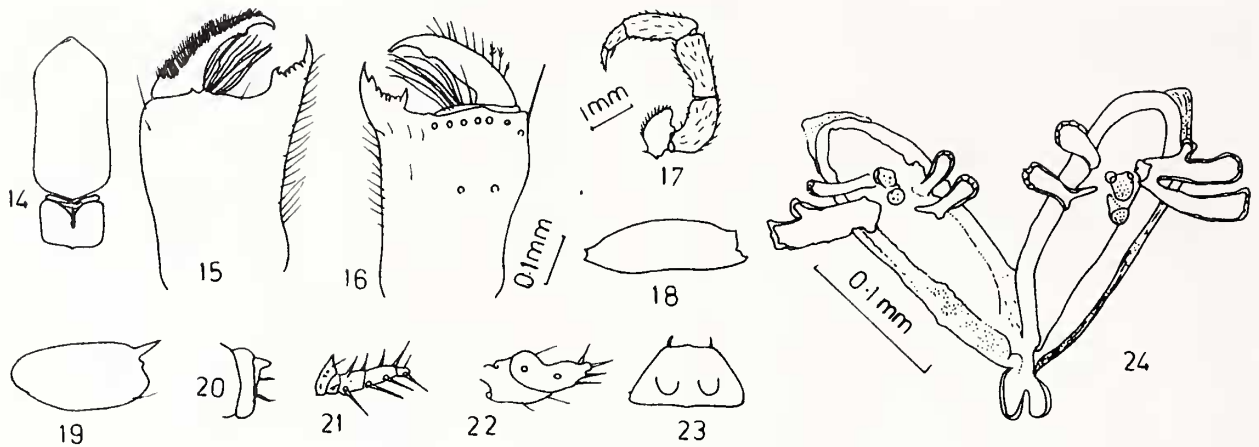
1987. *Schizomus lunatus* Cokendolpher, *Insecta mundi* 2(2): 90-96.

1995. "*Schizomus*" *lunatus* Reddell and Cokendolpher, *Texas Mem. Mus. Speleol. Monogr. No. 4:* 4, 11, 20 and 54.

General: ♂ Body yellowish-orange, chelicerae and pedipalp browner, distal portions of legs lighter in colour.

Measurements (in mm): ♂ **Lectotype:** Total length 5.51; Cephalothorax length 2.17; Abdomen length 3.34 (Tables 3 & 4).

Cephalothorax: Propeltidium anterior margin medially produced into a process, not very sharply bent down, provided with anterior median seta followed by a pair of setae, dorsal setation not clear except one pair at 0.86 and second pair at 1.57 mm from anterior margin. Eyespots absent. Mesopeltidium small and the central gap between plates about 0.5 times, metapeltidium medially separated by a narrow median suture



Figs 14-24: *Schizomus lunatus* Gravelly, 14. Pro, meso and metapeltidium, dorsal view, 15. Chelicera, outer view, 16. Chelicera, inner view, 17. Pedipalp, lateral (mesal) view, 18. Femur IV, lateral view, 19. Coxa II, lateral view, 20. Distal end of abdominal segment XII, lateral view, 21. Flagellum (♀), lateral view, 22. Flagellum (♂), lateral view, 23. Sternite I, ventral view, 24. Spermathecae, dorsal view (Cokendolpher, pers. comm.)

up to 2/3rd anterior portion, only one pair of posterior setae present (Fig. 14). Anterior sternum with 8 visible setae and a pair of long sternapophysial setae, posterior sternum unsclerotised and without setae.

Abdomen: Tergites I-VII with a pair of dorsal setae each, tergite VIII with one pair of dorsal and one pair of dorso-lateral setae, tergite IX almost half the length of preceding segment, with one dorsal pair and one dorso-lateral pair of setae. Sternites V-VIII with an anterior irregular row of setae each, amongst only 3 plumose setae on V, 5 on VI and 1 on VII visible, middle row clear only on VII with 1 seta, and VIII with 3 setae, posterior row on posterior margins with 5 stout setae on V, 2 on VI and 1 each on VII and VIII, setation not clear on sternite IX. Segments X-XII telescoped, with a distinct short, stumpy, posterior process on posterior dorsal margin of segment XII (Fig. 19). **Flagellum:** short, single segmented and about 0.35 mm long, with a short stalk and almost spade-shaped with 5*d*, 4*l* and 6*v* pairs of setae (Fig. 22).

Appendages: **Chelicera:** basal segment smooth with setae Type 1-3, 2-3, 3-6, 4-2, 5-3 and 6-1, fixed finger with 3 teeth between two large outer teeth, movable finger with only one minute tooth on inner lateral margin, serrula almost smooth and obsolete, without teeth (Figs 15, 16). **Pedipalp:** Trochanter produced and pointed distally, with seven stout setae (Fig. 17); femur broad, short, armed with 6-7 stout setae on outer surface, and 2-3 pairs of setae present on inner surface (Fig. 17); patella not as broad as femur but elongated, more smooth and inner surface armed with 2 stout and 1 weak pilose setae; tibia shorter and thinner than patella, armed with 3-4 setae on inner surface, 3 setae on outer surface; tarso-basitarsus slightly more than half the tibial length, narrowed distally and armed with 3-4 pilose setae on inner surface, mesal spur equal to half the claw, claw curved,

sharp and slightly shorter than tarso-basitarsus length (Fig. 17). **Legs I-IV:** I antenniform and tarso-basitarsus proportion 19:4:5:4:3:20 (Fig. 24). Femur IV 2.9 times as long as wide (Fig. 18).

Paralectotype ♀ body colouration as in ♂, anterior median process more pointed, acute and bent downwards, setation on cephalothorax not clear, but anterior sternum with 4 setae and a pair of long sternapophysial setae, posterior sternum not sclerotized and with only 4 setae; **Flagellum:** broken on anterior tip, remaining portion with two faint annuli, genital sternite (V) with 6 scattered setae, spermathecae not dissected, (Diagram after Cokendolpher, unpubl. data) (Fig. 20), **Pedipalp:** produced but not as pointed as in male, **Legs I** antenniform, tarso-basitarsus proportion 20:3:4:4:5:10. Femur IV 2.65 times longer than wide. Leg formula 1423.

Table 3: Measurements (in mm) for ♂ "*Schizomus*" *lunatus* Gravelly

| | Pedipalp | Legs I | II | III | IV |
|------------|----------|--------|-------|------|-------|
| Trochanter | 0.77 | 0.51 | 0.55 | 0.58 | 1.65 |
| Femur | 1.82 | 1.76 | 3.30 | 2.97 | 4.18 |
| Patella | 1.87 | 5.28 | 1.76 | 1.54 | 1.76 |
| Tibia | 1.82 | - | 2.64 | 1.27 | 2.86 |
| Basitarsus | - | - | 2.15 | 1.43 | 3.14 |
| Tarsus | 1.10 | - | 1.38 | 1.32 | 2.87 |
| Total | 7.38 | - | 11.78 | 9.11 | 16.46 |

Table 4: Measurements in mm for ♀ "*Schizomus*" *lunatus* Gravelly

| | Pedipalp | Legs I | II | III | IV |
|------------|----------|--------|------|------|-------|
| Trochanter | 1.54 | 1.16 | 0.55 | 0.72 | 0.83 |
| Femur | 1.65 | 3.30 | 2.31 | 2.20 | 3.36 |
| Patella | 1.60 | 4.18 | 1.49 | 1.10 | 1.49 |
| Tibia | 1.32 | 2.92 | 1.43 | 1.27 | 2.37 |
| Basitarsus | - | - | 1.49 | 1.05 | 1.87 |
| Tarsus | 0.99 | 2.43 | 1.10 | 0.88 | 1.27 |
| Total | 7.10 | 13.99 | 8.37 | 7.22 | 11.19 |

Type data: Lectotype ♂, Paralectotype ♀, from Indian Museum Compound and Tollygunge, Calcutta, Coll. F.H. Gravely, date unknown, deposited in National Zoological Collection, ZSI, Kolkata Regn. No. not available.

Remarks: Reddell and Cokendolpher (1995) have retained 37 species, new as well as some undescribed, under the genus "Schizomus" including the species *Schizomus lunatus* Gravely, stating "in the absence of adults, study of the female genitalia, or taxonomic revision, these species cannot be placed in any recognized genus." For such species, the generic name *Schizomus* is placed in inverted commas. So the species is being retained as "*Schizomus*" *lunatus* Gravely at present.

3. *Notozomus perplexus* (Gravely) comb. nov. (Figs 25-37)

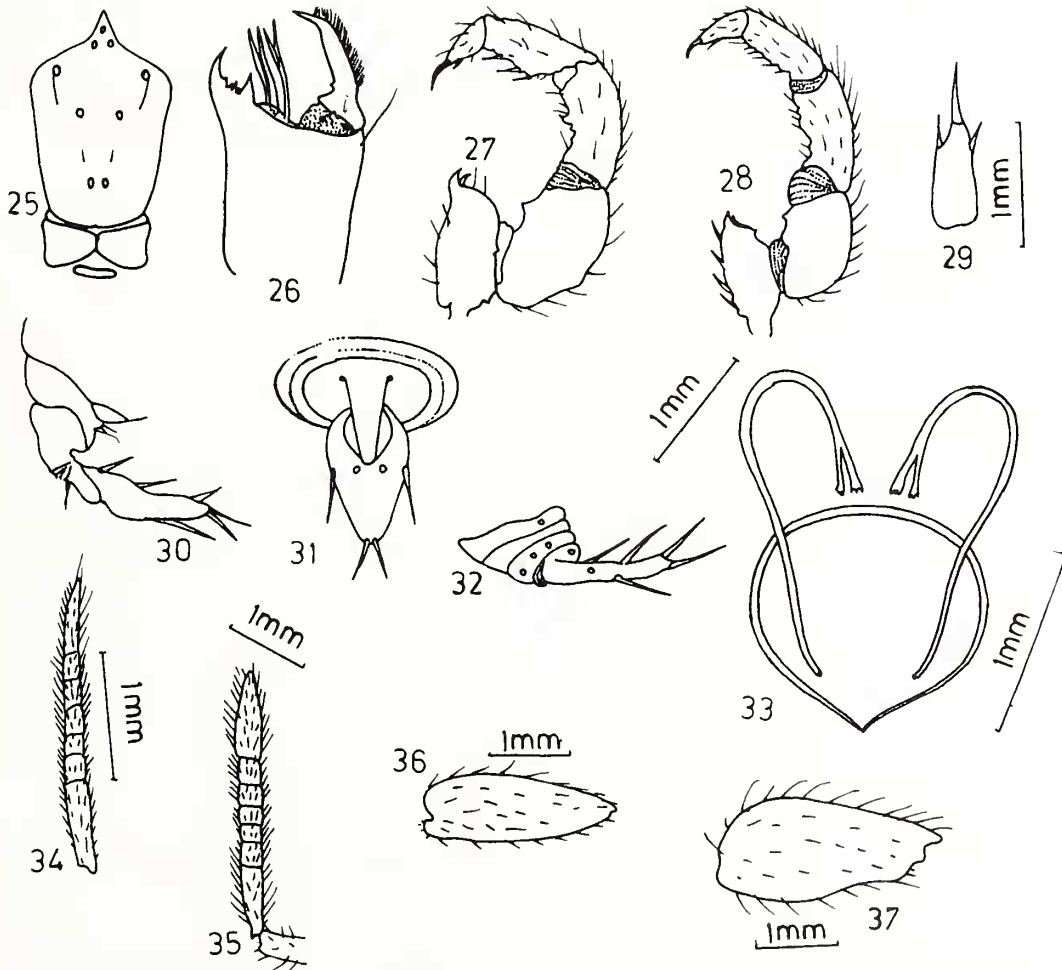
1915a. *Schizomus* (*Trithyreus*) *perplexus* Gravely, *Rec. Indian Mus.* 11: 383-385.

1961. *Trithyreus perplexus* Remy, *Bull. de Mus. Natl. de Hist. Nat. 2e Ser.* 33: 206-14

1995. "*Schizomus*" *perplexus* Reddell and Cokendolpher, *Texas Mem. Mus. Speleol. Monogr. No. 4:* 4, 20 and 53,

General: ♀ Total length 4.50 mm, delicate, yellowish-brown, pale on appendages (Table 5).

Cephalothorax: Propeltidium longer than wide, median surface raised and appearing convex medially, lateral margins narrowing anteriorly and ending in a sub-conical process, not very acute, armed with an anterior and three pairs of dorsal setae; a pair of lateral ocelli not very distinct, mesopeltidia distinct, placed between carapace and metapeltidium, metapeltidium divided medially on posterior portion, anterior margin parallel to propeltidium but rounded on posterior lateral margins (Fig. 25); anterior sternum broad, pointing posteriorly, setae on anterior sternum 8 and a pair of long sternapophysial



Figs 25-37: *Notozomus perplexus* (Gravely) comb. nov., 25. Pro, meso and metapeltidium, dorsal view, 26. Chelicera, outer view, 27. Pedipalp (♀), lateral (mesal), view, 28. Pedipalp (♂), lateral (mesal) view, 29. Basitarsus-tarsus (♀), lateral view, 30. Flagellum (♂), lateral view, 31. Flagellum (♂), ventral view, 32. Flagellum (♀), lateral view, 33. Spermathecae, ventral view, 34. Tarso-basitarsus I (♀), lateral view, 35. Tarso-basitarsus I (♂), lateral view, 36. Femur IV (♂), lateral view, 37. Femur IV (♀), lateral view

setae present, posterior sternum small, sub-triangular but setal numbers and position not clear.

Abdomen: All tergites smooth, tergite I much narrower and with 2 distal setae, tergites II-IX with 2 dorsal and 2 lateral setae, segment X with 8 + 8 = 16, XI with 6 + 6 = 12 and XII with 4 + 4 = 8 setae, *flagellum*: narrow, shaft with 3 annuli, 0.984 mm long and 0.164 mm wide, with 7 strong, stout setae (Fig. 32). *Spermathecae*: Consisting of only a pair of bifurcated, much elongated and incurved stalks, each branch ending in a sclerotized bulb, flat on distal marginal ends (Fig. 33).

Appendages: *Chelicera*: basal segment smooth, setae present as 1-4, 2-5, 3-4, 4-3 5-7 and 6-1, immovable finger with a strong basal tooth without a notch and armed with 3 minute teeth on inner margin, movable finger smooth without serrula and with a file of short setae on inner margin (Fig. 26); *Pedipalp*: with trochanter produced, with blunt anterior process, coxa flat with 6-7 distally pointed strong spines on the margin, femur curved, as long as coxa, bearing 1 or 2 minute tubercles on inner margin, patella a little longer than femur, smooth, tibia almost as long as patella, narrowed distally and provided with a few small spines, basitarsus almost half as long as tibia, narrowed distally, single sub-apical spur located ventrally on tarso-basitarsus, claw not even 1/3rd as long as upper margin of tarso-basitarsus (Fig. 27); *Legs I-IV*: I antenniform, tarso-basitarsus proportion 11:4:4:3:4:5:21 not very long but comparatively thin (Fig. 35); Coxa II bearing a short, sharp spur-like process directed antero-laterally, femur IV slightly more than 2.34 times longer than wide. Legs II-IV each with three claws.

Paralectotype: ♂ Cephalothorax finely granular on anterior side, otherwise same as in female; *Pedipalp*: much stronger and stouter; trochanter laterally flat, ventral margin straight and distally bearing a pair of uneven but strong spurs; femur also flattened, shorter than trochanter, bearing a few short denticulate spines on inner margin; patella almost as long as femur, bearing a pair of short tubercles on inner surface; tibia as long as but wider than patella, proximal inner portion elevated and provided with a few delicate setae; single elongated spur on inner surface of tarso-basitarsus, claw as long as half the upper margin of tarso-basitarsus (Figs 28, 29). *Leg I*: antenniform, tarso-basitarsus proportion 14:5:4:5:4:5:22 (Fig. 34). Femur IV 2.8 times longer than wide (Fig. 37); *Leg formula* 1423. *Flagellum*: 1.03 mm long, 3-annulated, distal annulus flat, expanded laterally, like an arrow (Fig. 30), first annulus without setae, serves as stalk, distal two annuli not distinctly separated, covered with 10-12 major setae, distal surface flat with a median pore and ventral surface convex in the middle (Fig. 31).

Type data: 1 ♀, **Lectotype** (studied), 7 ♀ ♀ **Paralectotypes** (2 ♀ ♀ without flagellum), 3 ♂ ♂ **Paralectotypes** (1 ♂ without

Table 5: Measurements (in mm) for ♂ *Notozomus perplexus* Gravelly

| | Pedipalp | Legs I | II | III | IV |
|------------|----------|--------|------|------|------|
| Trochanter | 1.70 | 0.50 | 0.40 | 0.30 | 0.50 |
| Femur | 1.70 | 2.40 | 1.40 | 1.60 | 1.70 |
| Patella | 1.30 | 2.70 | 0.60 | 0.80 | 1.90 |
| Tibia | 1.20 | 2.00 | 0.60 | 1.10 | 1.70 |
| Basitarsus | 0.80 | 1.80 | 1.00 | 0.80 | 1.10 |
| Tarsus | | | 0.80 | 0.70 | 0.90 |
| Total | 6.70 | 9.40 | 4.80 | 5.30 | 7.80 |

flagellum), numerous immature specimens in separate vial stating *S. (Th.) buxtoni* Gravelly, comments are not clear. All collected by B.H. Buxton, date unknown; Locality: Polonurwa, Sri Lanka (Ceylon), all deposited in National Zoological Collection, Zoological Survey of India, Kolkata, Regn. No.: not available.

Remark: Since the characters and illustrations given for the genus *Notozomus* Harvey by Reddell and Cokendolpher (1995) agree with *Schizomus perplexus* Gravelly, specially in the basic structure of the spermathecae, the author proposes to transfer the species to genus *Notozomus* Harvey as *Notozomus perplexus* (Gravelly) comb. nov.

4. "*Schizomus*" *greeni* Gravelly (Figs 38-44)

1912. *Schizomus (Trithyreus) greeni* Gravelly, *Rec. Indian Mus.* 12: 108-109.

1974a. *Trithyreus greeni* Brignoli, *Acad. Nazl. d' Lin. Prob. Att. d Sci & Cult. Quad.* 17(2): 143-152.

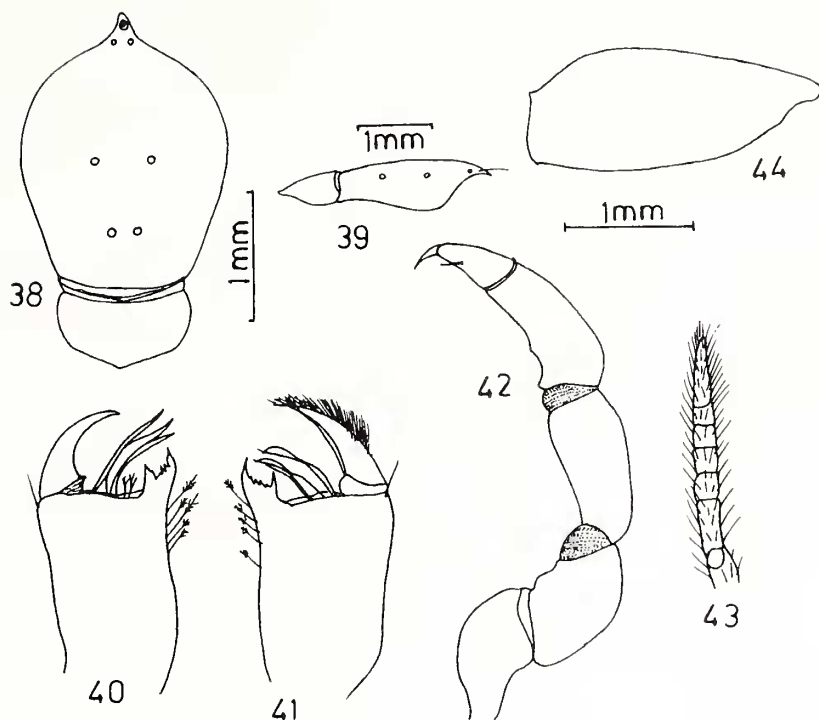
1995. *Schizomus greeni* Reddell & Cokendolpher, *Texas Mem. Mus. Speleol. Monogr. No.* 4: 48.

General: ♀ Yellowish body, paler on appendages, carapace twice as long as wide, ocelli absent, pedipalp delicate, legs normal and flagellum broken.

Measurements (in mm): Total length 6.80, carapace length 2.80, carapace width 1.10, abdomen length 4.00, flagellum broken, could not be measured (Table 6).

Cephalothorax: Propeltidium more than twice as long as wide, much wider at anterior end, dorsal surface convex, more prominently on anterior side and ending anteriorly in a sub-conical process (Fig. 38), 1 anterior and 2 dorsal pairs of setae on propeltidium, no ocelli present, mesopeltidia narrow and not very clear, metapeltidia placed close to posterior margin of propeltidium, parallel and also undivided medially, but a faint median suture noticeable at 1/3rd distance from anterior end and 1/3rd distance from posterior end.

Abdomen: Tergite I narrowed anteriorly, tergites II-IX smooth, setation not clear except for one pair of median setae on each tergite, segments X-XII contracted, may be due to preservation, flagellum short, 3-segmented. Spermathecae not observed, specimen probably immature.



Figs 38-44: *Schizomus greeni* Gravely, 38. Pro, meso and metapeltidium, dorsal view, 39. Pro, meso and metapeltidium, lateral view, 40. Chelicera, inner view, 41. Chelicera, outer view, 42. Pedipalp, lateral (mesal), view, 43. Tarso-basitarsus I, lateral view, 44. Femur IV, lateral view

Appendages: *Chelicera:* with setae 1-4, 2-?, 3-5, 4-2, 5-? and 6-1, immovable finger with 3 minute teeth between 2 large teeth (Figs 40, 41), movable finger smooth with no teeth or serrula, but armed with a row of short setae on mesal margin. *Pedipalp:* delicate, not at all strong and stout, trochanter margin not straight or provided with spur, and also not very flat laterally; femur smooth, almost as long as trochanter; patella tubular, as long as preceding segment, smooth; tibia about as long as patella, smooth and tapering distally; tarso-basitarsus with a small delicate basal spine, claw also short and delicate, not even $1/4^{\text{th}}$ of exterior basitarsal marginal length, only mesal spur prominent (Fig. 42). *Legs I-IV:* I antenniform and much longer (Fig. 43), II & IV with femora much flattened and femur IV more than twice as long as wide (Fig. 44). Leg formula 1423.

Table 6: Measurements (in mm) for ♀ "*Schizomus*" *greeni* Gravely

| | Pedipalp | Legs I | II | III | IV |
|------------|----------|--------|------|------|------|
| Trochanter | 0.90 | 0.60 | 0.40 | 0.60 | 0.65 |
| Femur | 0.80 | 1.80 | 1.60 | 1.40 | 1.50 |
| Patella | 1.10 | 2.30 | 0.80 | 0.60 | 0.90 |
| Tibia | 0.80 | 1.70 | 1.00 | 0.80 | 1.10 |
| Basitarsus | 0.60 | 1.00 | 0.90 | 0.90 | 1.30 |
| Tarsus | | 0.80 | 0.70 | 0.70 | 0.90 |
| Total | 4.20 | 8.20 | 5.40 | 5.00 | 6.35 |

Type data: 1 ♀ **Lectotype** from under a stone at Ambalagonda, S. Province, Sri Lanka (Ceylon); one specimen from compound of the Museum, Colombo, 20.vii.1912. Coll. E.E. Green; deposited in National Zoological Collection, ZSI, Kolkata. Regn. No.: Not available. ♂ unknown.

Remarks: Since the author could not study the genitalia in detail, as the specimen was probably an immature female he retains the species as "*Schizomus*" *greeni* Gravely at present.

5. "*Schizomus*" *vittatus* Gravely (Figs 45-47)

1911b. *Schizomus* (*Trithyreus*) *vittatus* Gravely, *Spolia zeylanica* 8: 135-140.

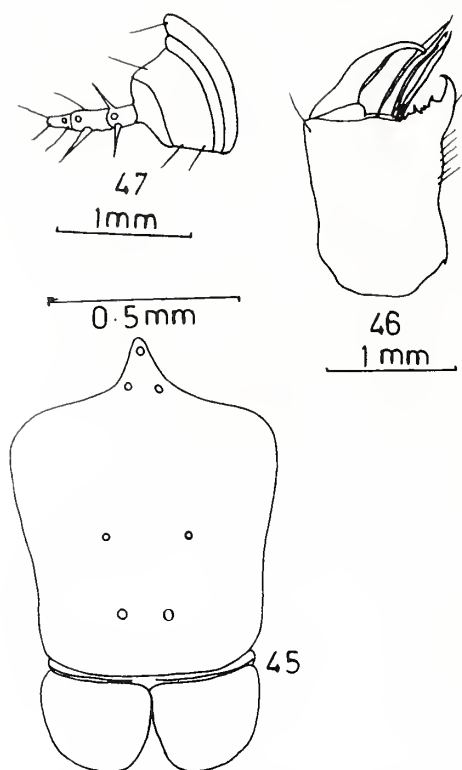
1972. *Trithyreus vittatus* Shimojana, *Iden, Tokyo* 26: 100-106.

1995. "*Schizomus*" *vittatus* Reddell & Cokendolpher, *Texas Mem. Mus. Speleol. Monogr. No. 4*: 55-56.

No description provided, diagrams only for cephalothorax, chelicera and flagellum given for ♀ specimen (cotype, probably immature specimen).

Type data: 6 ♀ cotypes from Royal Botanical Garden, Peradeniya and Paralema, Sri Lanka (Ceylon); date unknown, Coll. F.H. Gravely, National Zoological Collection, ZSI, Kolkata, Regn. No.: Not available.

Remarks: The author was provided only 1 ♀ specimen,



Figs 45-47: *Schizomus vittatus* Gravelly,
45. Pro, meso and metapeltidium, dorsal view,
46. Chelicera, inner view, 47. Flagellum (E), lateral view

which was in fragile condition and probably an immature, so he was unable to study this species in detail, particularly the genitalia. Therefore he retains it as "*Schizomus*" *vittatus* Gravelly.

***Burmezomus* gen. nov.**

Diagnosis: Anterior process of propeltidium beak-like, bent and bearing 3 setae, one in front and followed by a pair of setae, eyespots present, metapeltidium undivided, trochanter strongly produced anteriorly and broadly connected to femur, trochanter with strong mesal spur, femur curved on exterior portion without spinose setae, patella not much curved but bearing 3 tubercles on interior margin, tibia without spur but tarsus bearing tarsal spur, movable cheliceral finger without serrula, anterodorsal margin of femur IV produced at an angle more than 90°, female flagellum single, without any segment, spermathecae with uneven number of banded, rod-like structures ending in pointed or cup shape, gonopod short and pointed.

Type species: *Schizomus cavernicola* (Gravelly)

Distribution: Khayon caves near Moulmain, Myanmar (Burma).

Etymology: The generic name derived from Burma and

the Burmese people, suffixing the generic name *zomus*. The gender is masculine.

6. *Burmezomus cavernicola* (Gravelly) comb. nov.

(Figs 48-56)

1912. *Schizomus* (s. st.) *cavernicola* Gravelly, *Rec. Indian Mus.* 7: 107-109.

1977. *Schizomus cavernicola* Rowland & Reddell, *Assoc. Mexican Cave Studies Bull.* 6: 79-102.

1995. *Schizomus cavernicola*: Reddell & Cokendolpher, *Texas Mem. Mus. Speleol. Monogr. No.* 4: 48.

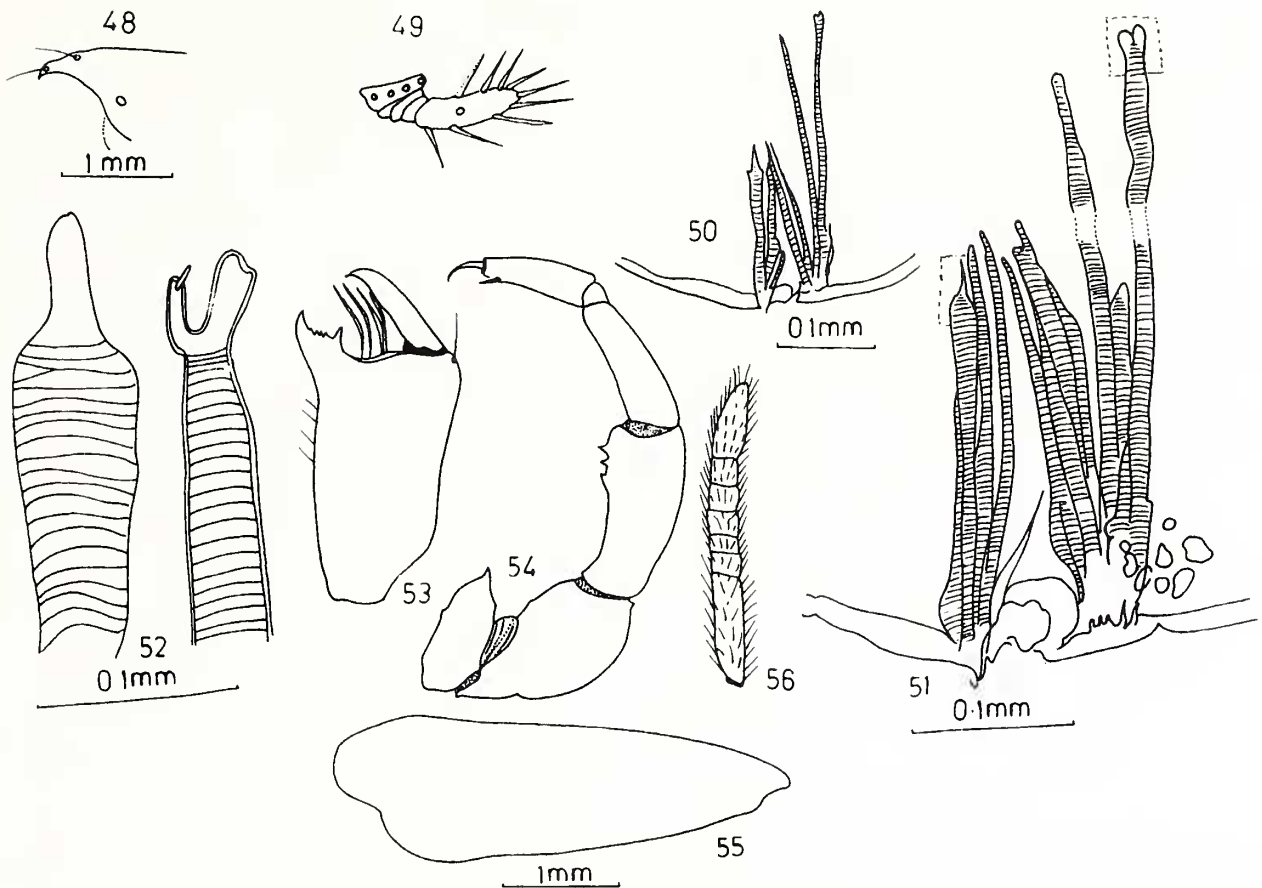
General: **Lectotype** ♀ body greyish-yellow, lighter on appendages except brownish red tips, pedipalp, tarsus, claws and stout spines.

Measurements (in mm): Total length 6.46; Cephalothorax length 2.24, Cephalothorax width 1.23, abdomen length 3.66, flagellum length 0.56 and width 0.2.

Cephalothorax: Propeltidium beaked anterior, beak acutely bent forward, supported with one long seta followed by a pair of setae at the base of beak, 3 pairs of dorsal setae (Fig. 48). A distinct pair of white eyespots present on anterio-lateral portion (Fig. 48). Mesopeltidia very narrow and separated medially. Metapeltidium undivided, almost rectangular, slightly longer than wide, provided with a pair of posterior median setae.

Abdomen: Tergites I-IX smooth, each with a pair of median setae, other setae not clear, segments X-XII telescoped, setae dropped, except for a few dorsal setae on segment X. Sternites also smooth, except for 7-8 setae on segment I, no setation clearly seen, anterior sternum with 6 setae visible and a pair of long sternapophysial setae, posterior sternum not much sclerotized and with 5-6 small reddish setae. **Flagellum:** single annulus, short 2.8 times longer than wide, *3d*, *3vl* and *2v* pairs of setae (Fig. 49), Spermathecae consist of elongated bar-like structures of uneven length and numbers, some tapering, pointed distally and some with cup-shaped distal end, all evenly banded (Fig. 50-52).

Appendages: **Chelicera:** basal segment smooth with setal types 1-4, 2-2, 3-1, 4-?, 5-4 and 6-1, fixed finger with 5 serrulated sharply pointed teeth between two large outer teeth, movable finger smooth without teeth or serrula on inner margin (Fig. 53). **Pedipalp:** robust, produced anteriorly into a pointed spine on anterior portion (Fig. 54), femur and patella equal in length, but femur wider than patella, tibia shorter than patella and narrowed distally, tarso-basitarsus shorter than patella and tarsal claw almost half as long as basitarsus. **Legs I-IV:** measurement as in Table 7, I antenniform (Fig. 56), Femur IV slightly less than 3 times longer than wide (Fig. 55). Leg formula 1423.



Figs 48-56: *Burmezomus cavernicola* (Gravely) comb. nov., 48. Anterior portion of propeltidium, lateral view, 49. Flagellum (♀), lateral view, 50. Spermathecae, ventral view, 51. Spermathecae, ventral view (enlarged), 52. Spermathecal rods, distal portions, ventral view (enlarged), 53. Chelicera, inner view, 54. Pedipalp, lateral (mesal) view, 55. Femur IV, lateral view, 56. Tarso-basitarsus, lateral view

Table 7: Measurements (in mm) for ♀ of *Burmezomus cavernicola* (Gravely)

| | Pedipalp | Legs I | II | III | IV |
|------------|----------|--------|------|------|------|
| Trochanter | 0.65 | 0.52 | 0.22 | 0.30 | 0.56 |
| Femur | 0.82 | 2.11 | 1.55 | 1.29 | 2.28 |
| Patella | 0.77 | 2.41 | 0.56 | 0.47 | 0.82 |
| Tibia | 0.43 | 1.98 | 0.77 | 0.65 | 1.38 |
| Basitarsus | | | 0.82 | 0.68 | 1.12 |
| Tarsus | 0.52 | 1.38 | 0.60 | 0.62 | 0.86 |
| Total | 3.19 | 8.40 | 4.52 | 4.01 | 7.02 |

Type data: 2 ♀♀ **Lectotype**, in depths of big dark cave (the famous Khayon cave) near Moulmain, Myanmar (= Burma). Coll. F.H. Gravely, 17.xi - 4.xii.1911, deposited at National Collection, ZSI, Kolkata, Regn. No. 2161/18, ♂ unknown.

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